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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,765	01/25/2001	Meir Feder	14531.107.1.4	7763

47973 7590 07/18/2005

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EXAMINER

NALEVANKO, CHRISTOPHER R

ART UNIT PAPER NUMBER

2611

DATE MAILED: 07/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/770,765	Applicant(s) FEDER ET AL.	
	Examiner Christopher R. Nalevanko	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-35, 37-39 and 43-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-35, 37-39 and 43-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>31 Jan. 2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments in previous response (04/07/2004) with regards to the commonly assigned Ravi Patent (commonly assigned to Microsoft), are noted but do not conform with MPEP 706.02 (L)(2) II. Specifically, Applicant must state in a clear and conspicuous manner, that:

"Application X and Patent A were, at the time the invention of Application X was made, owned by Company Z." Previous Office Action (01/20/2004) is sustained.
2. A supplemental Office Action is supplied below.
3. Applicant's arguments with respect to claim 30 have been considered but are moot in view of the new ground(s) of rejection.
4. Applicant's arguments filed 12/20/2004 have been fully considered but they are not persuasive.

Regarding Claim 53, Applicant argues that "the cited art also fails to disclose or suggest the use of hints included with the data specifying how the data should be compressed and multiplexed based on bandwidth requirements" (page 9 lines 1-3). Examiner asserts that Ito clearly shows extracting data that describes the video content and tells the video assembler how to compress the video for each bit rate accordingly (col. 9 lines 10-35, extract data required to adjust the transfer bit rate, for example, information about the frame structure, type of encoding, size of header, size of frames, number of pictures in GOP, types of pictures to be extracted for compression level, etc.).

Furthermore, figure 3 clearly shows that based on this extracted video information data, or hints, various levels of MPEG compression are provided for corresponding minimum bit rates, or bandwidth.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 30-35, 37-39, 43-55, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams (6,044,396) in further view of Ito et al (6,014,693), Chen et al (5,822,524), and Mussman et al (6,243,388).

Regarding Claim 30, Adams shows a system that receives data from source and a method of bandwidth allocation for transmitting video on a cable network comprising identifying compression parameters to be used to compress the data that is received from the sources to a desired depth of compression (col. 5 lines 10-50, encoding rate determined by the bandwidth availability), associating the compression parameters with a set of values and threshold ranges (col. 5 lines 15-50, col. 6 lines 15-50, using parameters of B buffer fullness, T buffer threshold, and Cm maximum rate to determine proper encoding rate), receiving data from a plurality of data sources a plurality of data sources (col. 2 lines 27-41, col. 4 lines 35-50), differentially converting the data sources into compressed video streams responsive to an instantaneous resource restriction (col. 5 lines 10-50, col. 7 lines 30-45), and multiplexing the compressed video streams on a single

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transmission line (col. 4 lines 35-50, see fig. 1 item 110, fig. 2). Adams fails to show differentially converting the data to a desired depth of compression based on a function of the types of data and for degrading image quality based on the types of data. Ito shows differentially converting the data based on the content, such as what frames are being transmitted and how much resolution in the data (fig. 3, col. 3 lines 25-31, col. 5 lines 50-67, col. 6 lines 1-40, col. 9 lines 10-30, multiple streams are created based upon the content in the server, different versions for different bit rates are created, streams the appropriate content accordingly, 'plural bit rate settings by assigning a weight to each of pictures which constructed a GOP in accordance with the contents of the video data when registering the video data'). Furthermore, Ito shows determining different compression for picture degradation (col. 9 lines 15-27, picture degradation in video data is prevented by determining types and numbers of pictures to be extracted for each of the plural bit rates). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify Adams with ability to vary the data rate based on the data content as in Ito in order to provide the user's terminal with the most efficient amount of data.

Adams and Ito both fail to show compressing the data based on client capabilities. Chen clearly shows using client capabilities to determine the appropriate compression (col. 7 lines 45-57, col. 8 lines 60-67, col. 9 lines 1-6, client agent monitors characteristics of applications, changing parameters at runtime if client agent does not have sufficient processing capability). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Adams and Ito with the

ability to use client capability to determine compress, as shown in Chen, so that the video stream most appropriate for the client was supplied and other resources were not wasted.

Adams, Ito, and Chen, all describe digital data packet streaming systems that require some type of client computer address in order to send appropriate data (such as an IP address), but they fail to specifically state using a “customer identifier.” Mussman clearly shows using a customer identifier to locate clients in a broadband system (col. 11 lines 1-10, col. 12 lines 15-37, customer units identified by subscriber number). It would have been obvious to one of ordinary skill in the art at the time the invention was made, and is well known in the art, to modify Adams, Ito, and Chen with a client subscriber number so as to uniquely identify and communicate with a specific client.

Regarding Claim 31, Adams shows converting each stream into a different bit rate, but fails to specifically state that the bit rate is associated with the frame rate. Ito shows that a different number of frames are displayed (frame rate) based on what stream is sent (col. 9 lines 15-25).

Regarding Claim 32, Adams shows that the frame quality maybe increased depending on bandwidth availability (col. 2 lines 12-17).

Regarding Claim 33, Adams shows that the resource restriction comprises bandwidth restrictions (col. 5 lines 10-50, lines 64-67).

Regarding Claim 34, Adams fails to show that the resource restriction comprises a computing restriction. Ito shows using a computing resource restriction, or load placed on the network server (col. 3 lines 30-41, col. 4 lines 30-35, col. 6 lines 30-40, load on server).

Regarding Claim 35, Adams shows that the data sources comprise display commands, or instructions on how the data will be displayed (col. 1 lines 50-59, col. 2 lines 42-44col. 4 lines 58-59). This 'application data' or 'auxiliary packets' are data that describe how the 'frame' of MPEG data is displayed. The data describing what frames are to be displayed or what bit rate to use are the display commands. The information tells the receiver how to create, or display, the image at the user site.

Regarding Claim 37, Ito shows that the data indicates whether an I or P frame is transmitted as well as the resolution or frame rate (number of frames extracted to be sent as a stream) (fig. 3, col. 5 lines 50-67, col. 6 lines 1-55, col. 9 lines 5-35, index with a variety of content information).

Regarding Claim 38, Adams shows that it is possible to analyze, based on the display commands, such as bit rate and application data, to determine the content of the data, such as a slow moving scene (col. 2 lines 12-17).

Regarding Claim 39, Adams shows that applications data, generated by software, indicates information about the content of the data (col. 1 lines 50-59, col. 2 lines 42-44col. 4 lines 58-59).

Regarding Claim 43, Adams fails to show that the resource restriction comprises a computing restriction. Ito shows using a computing resource restriction, or load placed on the network server (col. 3 lines 30-41, col. 4 lines 30-35, col. 6 lines 30-40, load on server). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify Adams with ability to vary the data rate based on the

computing restrictions as in Ito in order to provide the user's terminal with the most efficient amount of data.

Regarding Claim 44, Adams shows converting each stream into a different bit rate, but fails to specifically state that the bit rate is associated with the frame rate. Ito shows that a different number of frames are displayed (frame rate) based on what stream is sent (col. 9 lines 15-25).

Regarding Claim 45, Adams shows that the frame quality maybe increased depending on bandwidth availability (col. 2 lines 12-17).

Regarding Claim 46, Adams shows a method of bandwidth allocation for transmitting video on a cable network comprising providing a plurality of data sources (col. 2 lines 27-41, col. 4 lines 35-50), differentially converting the data sources into compressed video streams responsive to an instantaneous resource restriction (col. 5 lines 10-50, col. 7 lines 30-45), and multiplexing the compressed video streams on a single transmission line (col. 4 lines 35-50, see fig. 1 item 110, fig. 2). Adams shows converting each stream into a different bit rate, but fails to specifically state that the bit rate is associated with the frame rate. Ito shows that a different number of frames are displayed (frame rate) based on what stream is sent (col. 9 lines 15-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify Adams with ability to change the frame rate as in Ito in order to provide the user's terminal with the most efficient amount of data.

Regarding Claim 47, Adams shows that the frame quality maybe increased depending on bandwidth availability (col. 2 lines 12-17).

Regarding Claim 48, Adams shows that the resource restriction comprises bandwidth restrictions (col. 5 lines 10-50, lines 64-67).

Regarding Claim 49, Adams fails to show that the resource restriction comprises a computing restriction. Ito shows using a computing resource restriction, or load placed on the network server (col. 3 lines 30-41, col. 4 lines 30-35, col. 6 lines 30-40, load on server). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify Adams with ability to vary the data rate based on the computing restrictions as in Ito in order to provide the user's terminal with the most efficient amount of data.

Regarding Claim 50, Adams shows using asynchronous compression and MPEG-2 encoding (col. 5 lines 10-27, synchronous transfer mode and variable bit rate as a result of MPEG-2). Furthermore, MPEG-2 type encoding inherently only sends data when a change has occurred in the image, as expressed in a P or B frame.

Regarding Claim 51, Adams shows using a variety of data buffers, which queue and delay generation of compressed data to accommodate the instantaneous resource restriction (col. 5 lines 45-67, col. 6 lines 1-50, controlling the fullness of the encoding buffer B based on bandwidth availability).

Regarding Claim 52, in Ito, it is understood that when the server measures the load on the system, the server changes the compression depth for all users, not just one user (col. 7 lines 40-67, col. 8 lines 1-40, 50-67, determining load imposed on server Ld and adjusting the compression accordingly in order to provide users with a constant bit stream).

Regarding Claim 53, Ito shows extracting data about the video data that describes how the video should be compressed, which can be read as coding hints (col. 9 lines 10-35, extract data required to adjust the transfer bit rate, for example, information about the frame structure, type of encoding, size of header, size of frames, number of pictures in GOP, types of pictures to be extracted for compression level, etc.). Furthermore, Ito shows that different compression levels are determined based on different minimum bandwidth requirements (fig. 3, different bit rate settings and MPEG compression data).

Regarding Claim 54, Ito shows that the system determines the quality reduction applied to the content that is associated with a determined bit rate level (fig. 3, different levels of MPEG compression for different bit rates).

Regarding Claim 55, video data inherently contains data that fills up a display.

Regarding Claim 58, Mussman clearly shows using a customer identifier to locate clients in a broadband system (col. 11 lines 1-10, col. 12 lines 15-37, customer units identified by subscriber number).

6. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adams (6,044,396) in further view of Ito et al (6,014,693), Chen et al (5,822,524), Mussman et al (6,243,388), and Lavalley (6,215,904).

Regarding Claim 57, Adams shows compressing and sending computer application and control data in addition to video data (col. 4 lines 50-65, application data). Although text can be sent in the systems of Adams, Ito, Chen, and Mussman, they fail to specifically state creating more compression for text data. Lavalley shows creating

different compression for various data, depending if it is image or text data (col. 3 lines 10-67, selecting an encoding scheme based on the content of an image, such as text or pictures). It would have been obvious to modify the system of Adams, Ito, Chen, and Mussman with the ability to compress text to a greater extent, as shown in Lavallo so that the most efficient data was sent to the user.

7. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adams (6,044,396) in further view of Ito et al (6,014,693), Chen et al (5,822,524), Mussman et al (6,243,388), and Gourdol (6,721,455).

Regarding Claim 56, Although icons and menus can be sent in the systems of Adams, Ito, Chen, and Mussman, they fail to specifically state creating more compression for icons and menu data. Gourdol clearly shows a system that compresses icons and graphical user interface menus to a greater extent (col. 3 lines 15-60, graphical icons that are used within a user interface are compressed). It would have been obvious to modify the system of Adams, Ito, Chen, and Mussman with the ability to compress icon data to a greater extent, as shown in Gourdol, so that the most efficient data was sent to the user.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Nalevanko whose telephone number is 571-272-7299. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on 571-272-7294. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cn

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